

### **Remarks/Arguments**

In response to the Office communication mailed herein on August 10, 2004, the limitations of claim 22 (objected to but indicated as allowable if rewritten) are being introduced into all claims. Additionally, the noted informalities in the specification, abstract and claims are being corrected to reflect the required presence of  $\text{Li}_2\text{O}$ , the dependency of claim 8 is being corrected, and claim 22 is being canceled. Reconsideration of this application in view of these amendments and the following remarks is respectfully requested.

With regard to the formal objections to the specification and claims, each of paragraphs [0007] and [0015], claims 1, 10, 11, 13 and 14, and the Abstract have been corrected to refer to  $\text{Li}_2\text{O}$  instead of  $\text{LiO}_2$ , and claim 8 has been amended to depend from claim 7 rather than claim 9. In light of these corrections the Applicants respectfully submit that the objections to the specification and claims on formal grounds should now be withdrawn.

The Examiner rejected claims 1-9 of the application under 35 U.S.C. §102 on reference to Chyung et al., U.S. Patent No. 5,962,351 (Chyung), disclosing a method for making ceramic honeycombs from mineral batch constituents. That rejection is respectfully traversed with respect to the amended claims for the following reasons.

The Applicants' invention relates to a method of fabricating beta-spodumene-based ceramic articles without employing a glass component. Specifically, the inventive method involves formulating a plastic batch of inorganic raw materials entirely composed of minerals but from which glass components are absent, the raw materials being selected to react and form a solid solution of beta-spodumene. The absence of glass in the extrusion batch eliminates the requirement of preparing, melting and grinding such a component to form a powdered raw material for extrusion use, and moreover avoids the risk that the porosity of the product will be unacceptably reduced during the process of firing the minerals to convert them to beta-spodumene (paragraph [0008] of the specification).

In contrast to the Applicants' method, Chyung clearly requires the presence of glass in the spodumene powder batches (column 1, line 60 of the patent). Glass components are needed to provide a low-melting and fluid component that can promote rapid sintering and reactivity within the mineral batch (column 2, lines 27-28 of the patent). That is because Chyung's objective is to produce a low-porosity honeycomb offering improved resistance to moisture and corrosion, for heat regenerator applications.

In light of these differences, the Applicants respectfully submit that Chyung fails to either anticipate or suggest the subject matter of the amended claims. In fact, Chyung teaches away from the invention in requiring the inclusion of a glass powder component in the batch to promote a high degree of product consolidation. For these reasons it is respectfully submitted that claims 1-21 and 23-24 of this application, as now amended, are patentable over Chyung, and therefore that the rejection on Chyung should be withdrawn.

The Examiner also rejected claims 1-9 as well as claim 12 of the application under 35 U.S.C. §102 as anticipated by U.S. Patent No. 5,403,787 to Day. Day teaches the manufacture of a beta-spodumene ceramic article from a batch comprising mineral components.

This rejection is respectfully traversed for the same reasons advanced in support of the traversal of the rejection on Chyung. That is, Day also clearly requires glass to fabricate his ceramic honeycombs, glass powder in fact being the major component of Day's extrudable powder batches (Table III at column 7, line 18 of Day). Therefore, again, it is respectfully submitted that claims 1-21 and 23-24 of this application, as now amended, are patentable over Day, and therefore that the rejection on reference to Day should be withdrawn.

The Examiner additionally rejected claims 1-4 and 7 of the application under 35 U.S.C. §102 on reference to published European patent application EP 997 445 A to Yamamoto et al. (Yamamoto), describing the production of beta spodumene ceramic plates by an extrusion process. That rejection is respectfully traversed for the following reasons.

Yamamoto is concerned with the production of thick, relatively dense plates for use as setters in roller hearth furnaces. The petalite powder batches used for the extrusion of the green ceramic plate stock accordingly include both a metal oxide sintering aide and zircon, these serving to increase the density (reduce the porosity) of the setters (page 5, paragraph [0034] of the reference). Because of the requirement for strong, dense ceramic plates, Yamamoto fails to teach or suggest the production of extruded thin-walled beta-spodumene ceramics having high porosity. Thus the need met by the Applicants for highly porous ceramic honeycombs effective for use as gas filters and/or catalyst supports (paragraphs [0025] and [0026] of the specification) is not met by Yamamoto.

For the above reasons, the Applicants respectfully submit that Yamamoto fails to anticipate the subject matter of claims 1-21 and 23-24 of the application as now amended, and accordingly reconsideration and withdrawal of the rejection of claims 1-4 and 7 of the application as anticipated by Yamamoto are respectfully requested.

Finally, the Examiner rejected claims 5, 6, 9-11, and 13-21 of the application under 35 U.S.C. §102 on reference to Yamamoto, citing Yamamoto's disclosure of organic additives, overlapping sintering temperatures, and the use of MgO. Reconsideration and withdrawal of that rejection is respectfully requested for the reason, again, that Yamamoto fails to teach or suggest materials or processes for the production of honeycombs of high wall porosity in accordance with the Applicants' amended claims 1 and 13 from which these claims depend. In the absence of any disclosure concerning the production of porous spodumene ceramics, it is respectfully submitted that Yamamoto alone is insufficient to teach or suggest the subject matter of the rejected claims.

In light of all of the foregoing amendments and remarks, the Applicants respectfully submit that remaining claims 1-21 and 23-24 of this application are now in condition for allowance. Accordingly favorable reconsideration of this application and the issuance of a Notice of Allowance herein are courteously solicited.

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Amdt. Dated: 11/10/04  
Reply to Office Action of: 8/10/04

Applicants believe that no extension of time is necessary to make this Reply timely, but contingently request that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as is necessary to make this Reply timely, if in fact such an extension is required. In that contingency the Office is hereby authorized to charge any necessary extension fee or surcharge to the deposit account of Corning Incorporated, Deposit Account 03-3325.

Respectfully submitted,



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